

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A method for performing motion estimation of image blocks on image frames in video image compression using an associative memory device including a directory memory having memory locations and an output memory including a plurality of memory locations, each of the plurality of memory locations of the output memory corresponding to at least one memory location of the directory memory, wherein the method comprises:

determining a location of an image block to be coded on a current frame;

determining a search area on a previous frame corresponding to the location of the image block on the current frame, the search area including a plurality of image blocks, each of the plurality of image blocks having a location on the previous frame;

determining image block average values for the locations of the plurality of image blocks included in the search area by using a shift of predetermined size;

arranging the plurality of image blocks included in the search in a predetermined order based on the image block average values of the plurality of image blocks;

sorting the plurality of image blocks included in the search area by storing the image block average values of the plurality of image blocks in the memory locations of the directory memory of the associative memory device in an ascending or descending order and by storing in the memory location of the output memory corresponding to each memory location of the directory memory the location of the image block having an image block average value corresponding to the image block average value stored in the memory location of the directory memory;

using entering the image block average value of the image block to be coded as a key word for the associative memory device; and

in response, searching a restricted group of the image block average values stored in the memory locations of the directory memory of the associative memory device for an image block average value best matching the entered key word, wherein the restricted group of image block average values comprises the image block average values which differ from the entered key word by no more than a predetermined mean error, and wherein a partial distance elimination method is used for fastening the search for the best match; and

in response, outputting, from the corresponding memory location of the output memory of the associative memory device, the location of the image block having the best matching image block average value found.

~~searching for an image block best matching the image block to be coded among the plurality of image blocks included in the search area using a partial distance elimination method, the search area being restricted based on a mean error.~~

2. (Previously Presented) Method as defined in claim 1, wherein:

~~a predetermined area of regular shape around the image block to be coded is used as the search area.~~

3. (Previously Presented) Method as defined in claim 1, further comprising:

~~defining an area comprised of one or more objects moving quickly between successive image frames,~~

~~and using the area as the search area.~~

4. (Previously Presented) Method as defined in claim 1, further comprising:

~~determining possible location areas of the image blocks by using a shift of one pixel, a half of a pixel or other fractional shift.~~

5. (Currently Amended) A system for performing motion estimation of image blocks from a first image frame to a second image frame in video image compression, the first image frame

including a search area having a plurality of image blocks and the second image frame including an image block to be coded, wherein the system comprises:

means of determining image block average values of locations of the image blocks included in the search area corresponding to a location of the image block to be coded by using a predetermined shift on the first image frame;

means of sorting the image blocks included in the search area based on the image block average values of the image blocks; and

means of searching for a variant best matching image block for the image block to be coded among the image blocks included in the search area;

an associative memory device for sorting the image blocks included in the search area, the associative memory device including a directory memory having memory locations and an output memory including memory locations corresponding with at least one memory location of the directory memory, the directory memory storing the image block average values of the image blocks included in the search area in an ascending or descending order and the output memory storing the locations of the image blocks, each memory location of the output memory storing the location of an image block having an image block average value corresponding with the image block average value stored in the corresponding memory location of the directory memory, and wherein the image block average value of the image block to be coded is used as a key word of the associative memory device;

~~means for restricting a group of the image blocks in the search area based on a mean error; and~~

means for searching a restricted group of the image block average values stored in the memory locations of the directory memory of the associative memory device for an image block average value best matching the entered key word, wherein the restricted group of image block average values comprises the image block average values which differ from the entered key word by no more than a predetermined mean error, and

wherein a partial distance elimination method is used for fastening the search for the best match; and

means for outputting from the corresponding memory location of the output memory of the associative memory device the location of the image block having the best matching image block average value found.

~~means for searching for a best match among the image blocks included in the restricted group of image blocks by using a partial distance elimination method.~~